Name: ……

ADM No: …… **Date:** ……

School: ……

PHYSICS FORM THREE

END TERM II 2026 EXAM

TIME 2 ½ HRS

Instructions

a) Write your name, class and admission number in the spaces provided.
b) This paper consists of two sections: A and B.
c) Answer all questions in the spaces provided.
d) All working must be clearly shown.
e) Non-programmable silent electronic calculator may be used.
f) This paper has 10 printed pages.
g) Ensure all pages are printed.

FOR EXAMINERS USE ONLY

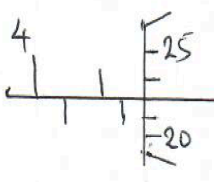
Section	Questions	Maximum score	Candidate's score
A	1 – 16	50	
B	17 18 19 20 21	07 13 10 13 07	
TOTAL		100	

SECTION A (50 MARKS)

1. State what optics as a branch of physics deals with. (1mk)

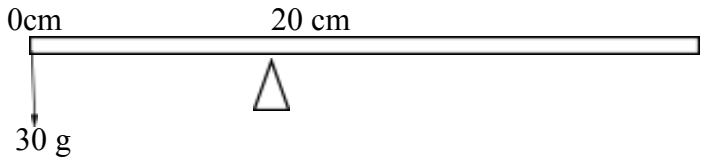
2. (a) A burette reads 10ml, determine final reading if 20 drops each 0.25ml are added. (2mks)

   (b) State the reading of the micrometre screw gauge below. (2mks)



3. (a) State two factors that affect surface tension. (2mks)

   (b) Calculate the weight of the half metre rule below. (3mks)



4. State what is observed in smoke cell experiment. (1mk)

5. (a) Explain why thermometers have a thin bulb (1mk)

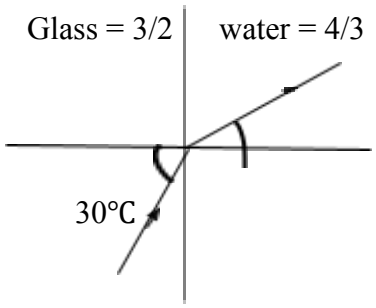
(b) A faulty thermometer reads 10°C in melting ice and 90°C in steam.

Calculate its reading at 30°C

. (3mks)

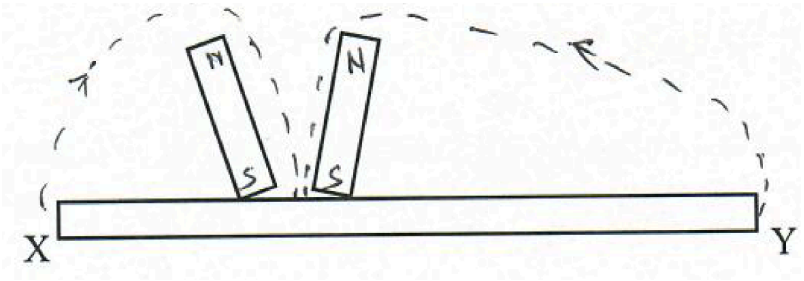
6. (a) Determine the angle of inclination of two mirrors to give 8 images. (3mks)

(b) Determine angle r in the figure below. (3mks)



7. A battery is rated 50 Ah, determine the current supplied in 150 minutes. (3mks)

8. (a) Identify poles at X and Y in the figure below. (2mks)



(b) State the Fleming's left hand rule (1mk)

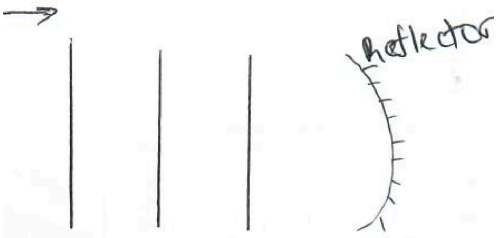
9. State the type of equilibrium in the figure below. (1mk)



10. A concave mirror forms an erect image 30cm from the mirror. If the object distance is 10cm, determine its focal length. (3mks)

11. (a) Differentiate between progressive and standing waves. (1mk)

(b) Indicate the reflected wave in the figure below. (2mks)



12. Calculate the height of a sunken ship if its echo is heard after 1 second instead of 1.5 seconds for sound travelling at 1500m/s. (3ms)

13. Determine the time taken by 7500g of fluid of mass 5kg/s to flow from one point to another. (3mks)

14. (a) A ball of mass 0.5kg is kicked horizontally from top of a building. If it takes 6 seconds to strike the ground, determine the height of the building. (3mks)

(b) Differentiate between elastic and inelastic collisions. (1mk)

15. A bulb is rated 100W.240V

(a) What does 100W.240V mean? (1mk)

(b) Determine its resistance. (2mks)

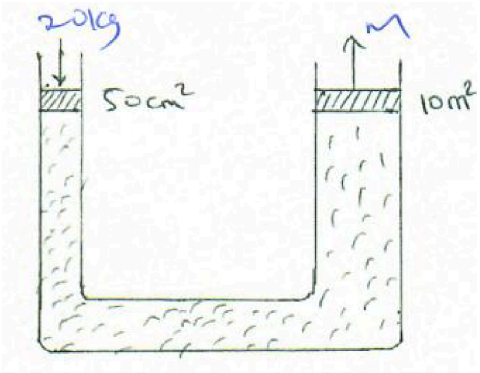
16. The volume of a bubble at the base of a container of depth 28cm is $4cm^3$. Determine the volume of a bubble at 8cm deep. (3mks)

SECTION B(50 mks)

17. (a) State Pascal's principle. (1mk)

(b) State two factors that affect pressure in fluids. (2mks)

(c) Determine the mass m in the hydraulic lift below. (4mks)



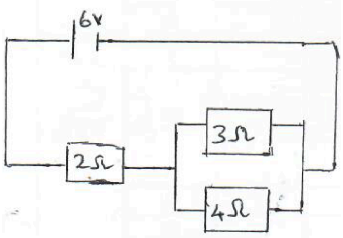
18. (a) State the basic law of electro statistics. (1mk)

(b) State three factors that affect the capacitance of a parallel plate capacitor. (3mks)

(c) Sketch a graph of p.d against time when charging a capacitor. (2mks)

(d) Determine the p.d of a capacitor when fully charged by 12V battery supplying 2.5A current. (1mk

(e) Use the circuit below to answer the following questions.



Determine:

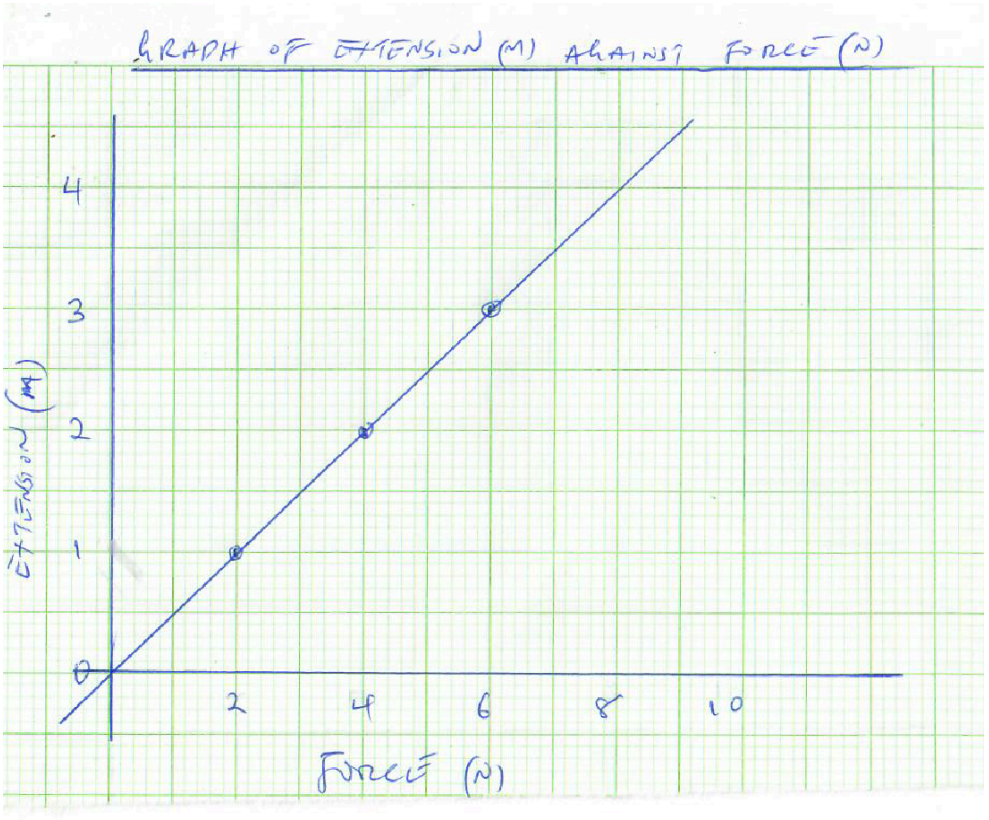
(i) Effective resistance. (3mks)

(ii) Current flowing through the 3ohms resistor. (3mks)

19. (a) State Hooke's law. (1mk)

(b) A spring stretches to 24cm from 18 cm when 200g is hung, determine the spring constant. (3mks)

(c) Use the graph below to answer the following questions.



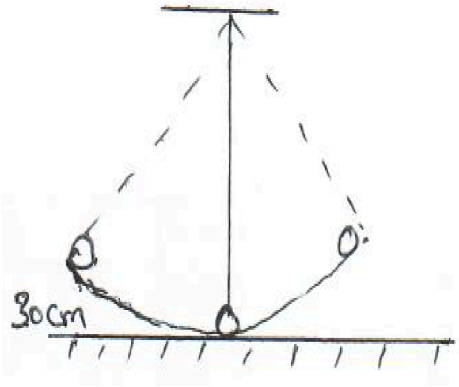
Determine:

(i) The spring constant. (3mks)

(ii) Extensions for 8N (3mks)

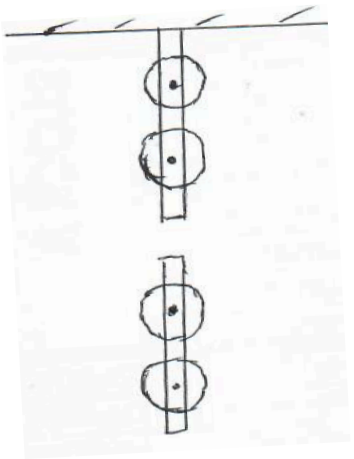
20. (a) Calculate the work done by using 4500g moved a distance of 1.2km. (2mks)

(b) 2kg oscillates from a height of 30cm. Determine the maximum velocity at lowest point. (3mks)



(c) Calculate the power discharged by a force of 250N moving at 6m/s. (3mks)

(d) Use the figure below to answer the questions that follow.



(i) Complete indicating load and effort to have V.R of 4. (3mks)

(ii) Determine the efficiency of the above pulley if M.A is 3. (2mks)

21. (a) Define heat capacity. (1mk)

(b) A heater rated 80W is immersed in 2kg block for 5 minutes. Determine;

(i) Energy supplied by the heater. (3mks)

(II) Specific heat capacity of a block if the temperature changes from 25'c to 55'c